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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/782,528	02/13/2001	Gera M. Strommer	2649/1F631US1	7543

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03/29/2004

DARBY & DARBY P.C
805 Third Avenue
New York, NY 10022

EXAMINER

MANTIS MERCADER, ELENI M

ART UNIT	PAPER NUMBER
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3737

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DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/782,528

Applicant(s)

STROMMER ET AL.

Examiner

Eleni Mantis Mercader

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-15, 19, 20, 35, 42, 65, 85, 110 and 120-202 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 3-15, 19, 20, 35, 42, 65, 85, 110 and 120-202 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

FINAL ACTION

1. Applicant's arguments have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly added claim language and arguments.

The Double Patenting rejection has been withdrawn in view of the filing of the Terminal Disclaimer.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3-15, 19-20, 35, 42, 65, 85, 110, and 120-202 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simon et al.'207 in view of Ishikawa et al.'247 and Schweikard et al.'981 and Cosman'126.

Simon et al.'207 teach all the features of the current invention using a navigation system and an imager including a processor, connected to a display unit and to a database (col. 5, lines 61-67 and col. 6, lines 1-11 and see col. 9, lines 16-22 for stored images forming a database); a positioning system, connected to said processor, including a transducer sensor and a surgical tool sensor, said surgical tool sensor being firmly attached to a surgical tool (col. 7, lines 45-61; note that any type of position localization can be utilized including magnetic fields); a two-dimensional imaging system, connected to said processor, including an imaging transducer, said transducer sensor being firmly attached to said imaging transducer (col. 5, lines 31-40; col. 6,

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lines 64-67 and col. 7, lines 1-6; describing sensor 109 attached on the fluoroscope); and a superimposing processor, connected to said processor (col. 11, lines 27-34).

Simon et al.'207 do not expressly teach elimination of the computation of correlation between the different sensors. In the same field of endeavor Ishikawa et al.'247 teaches use of transponders at any area of interest including surgical instruments, medical apparatus, organs, prosthetic devices and their localizations using simple triangulation techniques (see in particular cols. 19-20; regarding surgical navigational systems).

It would have been obvious to one skilled in the art at the time that the invention was made to have modified Simon et al.'207 in view of Ishikawa et al.'247 and used the transponders in order to simplify the calculations and the localization procedures involved.

Simon et al.'207 and Ishikawa et al.'247 do not teach the use of gating or triggering, as is known in the art, of an inspected organ monitor interface, connected to the processor and to an organ monitor, the organ monitor monitoring an organ timing signal associated with an inspected organ. In the same field of endeavor, Schweikard et al.'981 teach gating or triggering, as is known in the art, of an inspected organ monitor interface, connected to the processor and to an organ monitor, the organ monitor monitoring an organ timing signal associated with an inspected organ (see Figure 8, see col. 6, lines 51-65 and see claims 11 and 23). This triggering or gating is performed so that accurate treatment is performed compensating for movement of the patient such as movement of the chest due to respiration (see col. 2, lines 10-67 and col. 3, lines 1-22).

It would have been obvious to one skilled in the art at the time that the invention was made to have modified Simon et al.'207 and Ishikawa et al.'247 and incorporated the triggering or gating of therapy on the basis of monitoring motion as taught by Schweikard et al.'981 in

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order to compensate for movement such as respiration especially when the surgical treatment is targeted in an area of interest such as in the thorax where there is abdominal movement rather than in an area of minimal movement such as the spine.

Different type of therapeutic devices and different type of imagers would have been an obvious modification to one skilled in the art at the time that the invention was made as that would depend on the type of imager available and the surgical procedure of interest.

Simon et al.'207 in view of Ishikawa et al.'247 and Schweikard et al.'981 teach all the features of the current invention except for the use of goggles as a form of display. In the same field of endeavor Cosman'126 teaches the use of goggles as an alternative way to present the image information to the surgeon (see Figure 24 and col. 30, lines 19-49), so that the surgeon sees all the information in the same field of view as in the direction of the patient.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

5. It would have been obvious to one skilled in the art at the time that the invention was made to have modified Simon et al.'207 in view of Ishikawa et al.'247 and Schweikard et al.'981 and incorporated the teaching of Cosman'126, because that would allow the surgeon to continue to look the patient during surgery while visualizing the images through his goggles and not having to avert his/her eyes to look at a near by display.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eleni Mantis Mercader whose telephone number is 703 308-0899. The examiner can normally be reached on Mon. - Fri., 8:00 a.m.-6:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dennis Ruhl can be reached on 703 308-2262. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Eleni Mantis Mercader
Primary Examiner
Art Unit 3737

EMM